



PTO/SB/08A (08-03)

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/553,249
		Filing Date	October 17, 2005
		First Named Inventor	LeDuc, et al.
		Art Unit	1645
		Examiner Name	Not Yet Assigned
Sheet 1 of 5	Attorney Docket Number	040285PCTUS	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
/S.D./		US-4 789,601	12/06/1988	Banes	
/S.D./		US-6 048,723	04/11/2000	Banes	
/S.D./		US-6 037,141	03/14/2000	Banes	
/S.D./		US-6,645,759 B2	11/11/2003	Banes	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	† ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
/S.D./		WO 02/35990 A2	May 10, 2002	Prodesco, Inc.		
/S.D./		WO 91/19783	Dec. 26, 1991	E. I. DuPont De Nemours and Company		

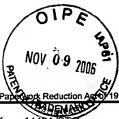
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PI-1476053 v1 0201710-1083



PTO/SB/08A (06-03)

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		Application Number Filing Date First Named Inventor Art Unit Examiner Name	10/553,249 October 17, 2005 LeDuc, et al. 1645 Not Yet Assigned
Sheet 2 of 5	Attorney Docket Number 040285PCTUS		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
/S.D./		BOITANO, S., et al., <i>A Role for Ca²⁺ -Conducting Ion Channels in Mechanically-induced Signal Transduction of Airway Epithelial Cells</i> , <u>Journal of Cell Science</u> 107, pp. 3037-3044 (1994).	
		CAMARGO, M., et al., <i>Renal Hydrolysis of Absorbed Protein: Influence of Load and Lysosomal pH</i> , <u>Am J Physiol</u> 247, pp. F656-64, (1984).	
		CHAOHONG L., et al., <i>Cyclic Strain Stress-induced Mitogen-activated Protein Kinase (MAPK) Phosphatase 1 Expression in Vascular Smooth Muscle Cells is Regulated by Ras/Rac-MAPK Pathways</i> , <u>The Journal of Biological Chemistry</u> Vol. 274, No. 36, pp. 25273-25280, (1999).	
		CHESS, et al., <i>Mechanical Strain-Induced Proliferation and Signaling in Pulmonary Epithelial H441 cells</i> , <u>Am J Physiol Lung Cell Mol Physiol</u> 279, pp. L43-L51, (2000).	
		DEKKER, R., et al., <i>Prolonged Fluid Shear Stress Induces a Distinct Set of Endothelial Cell Genes, Most Specifically Lung Krüppel-like Factor (KLF2)</i> , <u>Blood</u> , 100, No. 5, pp. 1689-1698, (2002).	
		ENGSTROM K, et al., <i>Combined Use of Micropipette Aspiration and Perfusion for Studying Red Blood Cell Volume Regulation</i> , <u>Cytometry</u> 27, pp.345-352 (1997).	
		FERRER I., et al., <i>Phosphorylation-Dependent Mitogen-Activated Protein Kinase (MAPK/ERK), Stress-Activated Protein Kinase/c-Jun N-Terminal Kinase (SAPK/JNK), and p38 Kinase Expression in Parkinson's Disease and Dementia with Lewy Bodies</i> , <u>J Neural Transm</u> 108, pp. 1383-1396, (2001).	
/S.D./		GARCIA-CARDENA G., et al., <i>Mechanosensitive Endothelial Gene Expression Profiles: Scripts for the Role of Hemodynamics in Atherogenesis?</i> , <u>Ann N Y Acad Sci</u> 947: 1-6, (2001).	

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		First Named Inventor	LeDuc, et al.
		Art Unit	1645
		Examiner Name	Not Yet Assigned
Sheet	3	of	5
		Attorney Docket Number	040285PCTUS

/S.D./	HAMMERSCHMIDT, S., et al., <i>Apoptosis and Necrosis Induced by Cyclic Mechanical Stretching in Alveolar Type II Cells</i> , <u>Am J Respir Cell Mol Bio</u> 30, pp. 396-402, (2004).	
	HUSSE, B., et al., <i>Cyclical Mechanical Sstretch-induced Apoptosis in Myocytes from Young Rats but Necrosis in Myocytes from Old Rats</i> , <u>Am J Physiol Heart Circ Physiol</u> 285, pp. 1521-1527, (2003).	
	JANSSON, K., et al., <i>A Biodegradable Bovine Collagen Membrane as a Dermal Template for Human In Vivo Wound Healing</i> , <u>Scand J Plast Reconstr Surg Hand Surg</u> 35, pp. 369-75, (2001).	
	KANO, Y., et al., <i>Lateral Zone of Cell-Cell Adhesion as the Major Fluid Shear Stress-Related Signal Transduction Site</i> , <u>Circulation Research</u> , Journal of the American Heart Association 86: pp. 425-433, (2000).	
	LEDUC P., et al., <i>Dynamics of Individual Flexible Polymers In a Shear Flow</i> , <u>Nature</u> 399, pp. 564-566, (1999).	
	LEDUC P., et al., <i>Use of Micropatterned Adhesive Surfaces for Control of Cell Behavior</i> , <u>Methods in Cell Biology</u> 69, pp. 395-401 (2002).	
	LEVENBERG, S., et al., <i>Differentiation of Human Embryonic Stem Cells on Three-Dimensional Polymer Scaffolds</i> , <u>PNAS</u> 100, No. 22, pp. 12741-12746, (2003).	
	LIU, S., et al., <i>A Possible Role of Initial Cell Death Due to Mechanical Stretch in the Regulation of Subsequent Cell Proliferation in Experimental Vein Grafts</i> , <u>Biomech Model Mechanobiol</u> 1, pp.17-27, (2002).	
↓ /S.D./	MALEK, A., et al., <i>Mechanism of Endothelial Cell Shape Change and Cytoskeletal Remodeling in Response to Fluid Shear Stress</i> , <u>Journal of Cell Science</u> , 109, pp. 713-726, (1996).	

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Sheet	4	of	5
		Filing Date	October 17, 2005
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		Art Unit	1645
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	040285PCTUS

/S.D./ ↓	MATSUDA, et al., <i>Proliferation and Differentiation of Human Osteoblastic Cells Associated with Differential Activation of MAP Kinases in Response to Epidermal Growth Factor, Hypoxia, and Mechanical Stress in Vitro</i> , <u>Biochemical and Biophysical Research Communications</u> 249, pp. 350-354, (1998).
	MEYER, et al., <i>Mechanical Control of Cyclic AMP Signalling and Gene Transcription Through Integrins</i> , <u>Nature Cell Biology</u> 2, pp. 666-668, (2000).
	MORIMOTO, N., et al., <i>Excess Plasma Membrane and Effects of Ionic Amphipaths on Mechanics of Outer Hair Cell Lateral Wall</i> , <u>Am J Physiol Cell Physiol</u> 282, pp. C1076-1086, (2002).
	RESNICK N., <i>Endothelial Gene Regulation by Laminar Shear Stress</i> , <u>Adv Exp Med Biol</u> 430, pp. 155-164, (1997).
	SCHNITTLER H., et al., <i>Role of Actin Filaments in Endothelial Cell Adhesion and Membrane Stability Under Fluid Shear Stress</i> , <u>Pharmacol Arch</u> 442, pp. 675-687, (2001).
	SHRODE, L., et al., <i>Cytosolic Alkalinization Increases Stress-Activated Protein Kinase/c-Jun NH2 Terminal Kinase (SAPK/JNK) Activity and p38 Mitogen-activated Protein Kinase Activity by a Calcium-independent Mechanism</i> , <u>The Journal of Biological Chemistry</u> Vol. 272, No. 21, pp. 13653-13659, (1997).
	SUMPIO, B., et al., <i>Mechanical Stress Stimulates Aortic Endothelial Cells to Proliferate</i> , <u>J Vasc Surg</u> 6, pp. 252-6 (1987).
	TOPPER, J., et al., <i>Blood Flow and Vascular Gene Expression: Fluid Shear Stress as a Modulator of Endothelial Phenotype</i> , <u>Mol Med Today</u> 5, pp. 40-46 (1999).
/S.D./	TRUSKEY, G., et al., <i>The Effect of Fluid Shear Stress Upon Cell Adhesion to Fibronectin-treated Surfaces</i> <u>J Biomed Mater Res</u> 24, pp. 1333-1353 (1990).

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